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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,805	11/26/2003	Patrick Hosein	4740-230	9768
24112 7590 02/03/2009 COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518				
EXAMINER				
ELCENKO, ERIC J				
ART UNIT		PAPER NUMBER		
2617				
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02/03/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

Application No.

10/723,805

Applicant(s)

HOSEIN ET AL.

Examiner

ERIC ELCENKO

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-4, 7-9, 14-20, 24 and 25 is/are rejected.  
7) ☒ Claim(s) 5-6, 10-13 and 21-23 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ ~~Notice of Informal Patent Application~~  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1,4, 7, 14-15 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corazza (U.S. Pub. No. 2003/0133409) in view of Sintonen (U.S. Pub. No. 2003/0142768)

In regard to method Claim 1 and corresponding apparatus Claim 14, Corazza teaches receiving a load indication from a base station indicative of a reverse link load; *(the base stations and mobile terminals can exchange information about the reverse link including information on load. This allows the mobile terminal to determination the rate at which it will transmit based upon the available power headroom. Therefore, the load indication which changes the data rate, affects the headroom which the rate is dependent upon, Para 13-15, Abs, 18-19, 40)*

Corazza does not teach adjusting the power headroom threshold to the mobile station based on the load indication.

Sintonen teaches adjusting a power headroom level based upon interference against a signal received at the mobile station. The interference that a mobile would experience is tied into the amount of load that is occurring over a link. The higher the load the higher the interference from the other mobile stations on the same link. Therefore the amount of interference which can be based off the load indication that is sent from the base station will have a direct effect on the power headroom of the mobile station. Sintonen teaches maintaining a certain power headroom, in this case maintaining a threshold of the power headroom so there is a constant value associated to the headroom. Therefore the load indication will change the power headroom threshold so a certain headroom can be maintained.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Corazza to include the teaching of Sintonen. One of ordinary skill in the art using known methods could combine the prior art elements to yield predictable results of a power headroom threshold being changed based upon a load indication of a link that mobile station is communicating on to overcome the effect of interference on a signal.

In regard to Claims 4, 7 and 17-18, Corazza teaches receiving load indication from a base station comprises receiving a periodic load indication. *(It is inherent in order to maintain congestion control, periodic load reports must be used to keep a constant control over the loading on the reverse link. Para 13-15)*

In regard to Claim 15, Corazza teaching wherein the power headroom threshold limits the data transmission rate of the mobile station. (*The data rate is based upon the available power headroom, Para 13-15*)

4. Claims 2,3, and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Corazza (U.S. Pub. No. 2003/0133409) in view of Sintonen (U.S. Pub. No. 2003/0142768) in further view of Gopalakrishnann et al. (U.S. Pub. No. 2002/0110101)

In regard to Claims 2,3 and 16, the combination does not teach using an upper layer message on a common control channel.

Gopalakrishnann teaches using upper layer messages passed to the mobile on a appropriate common control channel. (Para 68)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination to include the teachings of Gopalakrishnann in order to allow for the most efficient messaging depending upon how fast and periodically the code space is changing.

5. Claims 8, 9 and 19-20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corazza (U.S. Pub. No. 2003/0133409) in view of Sintonen (U.S. Pub. No. 2003/0142768) in view of Lakkakorpi (U.S. Pub. No. 2003/0179704)

In regard to Claim 8-9 and 19-20, the combination does not disclose calculating a weighted average of two or more load indications.

Lakkakorpi teaches the link load is determined by an exponential averaging equation with configurable weighting. Fig 5 shows the overview of the equation used over a window set of any size.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination to include the teachings of Lakkakorpi in order to provide a more reliable measurement of the load on which to base changes getting a wider margin of measurements rather than a single measurement which could be a reading where a power spike or fallout occurs giving a false reading.

6. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corazza (U.S. Pub. No. 2003/0133409) in view of Sintonen (U.S. Pub. No. 2003/0142768) in view of Raaf (U.S. Pub. No. 204/0029604)

In regard to method Claim 24 and corresponding apparatus Claim 25, Corazza teaches receiving a load indication from a base station indicative of a reverse link load; and adjusting the power headroom of the mobile station based on the load indication. *(the base stations and mobile terminals can exchange information about the reverse link including information on load. This allows the mobile terminal to determination the rate at which it will transmit based upon the available power headroom. Therefore, the load indication which changes the data rate, affects the headroom which the rate is dependent upon, Para 13-15, Abs, 18-19, 40)*

Corazza does not teach adjusting the power headroom threshold to the mobile station based on the load indication.

Sintonen teaches adjusting a power headroom level based upon interference against a signal received at the mobile station. The interference that a mobile would experience is tied into the amount of load that is occurring over a link. The higher the load the higher the interference from the other mobile stations on the same link. Therefore the amount of interference which can be based off the load indication that is sent from the base station will have a direct effect on the power headroom of the mobile station. Sintonen teaches maintaining a certain power headroom, in this case maintaining a threshold of the power headroom so there is a constant value associated to the headroom. Therefore the load indication will change the power headroom threshold so a certain headroom can be maintained.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Corazza to include the teaching of Sintonen. One of ordinary skill in the art using known methods could combine the prior art elements to yield predictable results of a power headroom threshold being changed based upon a load indication of a link that mobile station is communicating on to overcome the effect of interference on a signal.

The combination does not teach counting the number of times the mobile station is power limited for retransmission of a frame.

Raaf teaches providing for the number of retransmissions of the preamble with the maximum permissible power to be counted by a counter in step 212. (Para 45)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination to include the teachings of Raaf in order to allow for a more efficient method for changing the headroom by allowing for multiple readings of the power at a maximum before changing the headroom to allow enough power for further retransmissions.

#### ***Allowable Subject Matter***

7. Claims 5-6, 10-13 and 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC ELCENKO whose telephone number is (571)272-8066. The examiner can normally be reached on M-F 7:30 AM through 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Eisen can be reached on (571) 272-7687. The fax phone



number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ee

/Alexander Eisen/  
Supervisory Patent Examiner, Art Unit 2617